

WHAT IS CLAIMED IS:

1. A transmitting/receiving system comprising:

first and second transmitting/receiving apparatuses which mutually carry out transmission and reception, wherein

5 said second transmitting/receiving apparatus includes a plurality of band-pass means having different passbands for a signal which has been received from said first transmitting/receiving apparatus;

 a plurality of receiving quality detection means responsive to respective ones of said band-pass means;

10 said plurality of receiving quality detection means including means for detecting receiving quality information of a signal which has passed through said corresponding band-pass means;

 a receiving quality control means which generates, based on said receiving quality information provided by said plurality of receiving quality detection means, a receiving quality control signal for each passband;

15 said receiving quality control signal is a signal which becomes a basis for controlling the level of a signal transmitted by said first transmitting/receiving apparatus; and

20 said first transmitting/receiving apparatus adjusts, based on said receiving quality control signal which has been transmitted by said second transmitting/receiving apparatus, a level of a signal to be transmitted for each passband.

2. A transmitting/receiving system as set forth in claim 1, wherein said receiving quality information is at least one of bit errors and a signal level.

25 3. A transmitting/receiving system as set forth in claim 1, wherein said

receiving quality control means uses said receiving quality information as said receiving quality control signal.

4. A transmitting/receiving system as set forth in claim 1, wherein:

5 said receiving quality control means includes an electric energy control signal generating means for generating an electric energy control signal which adjusts the electric energy level of a signal to be transmitted by said first transmitting/receiving apparatus for each passband; and

said electric energy control signal is said receiving quality control signal.

5. A transmitting/receiving system as set forth in claim 1, wherein:

10 said receiving quality control means includes an electric energy amount information generating means for generating amount of electric energy information concerning the amount of electric energy-designating value of each passband that said second transmitting/receiving apparatus demands from a signal transmitted by said first transmitting/receiving apparatus; and

15 said amount of electric energy information is said receiving quality control signal.

6. A transmitting/receiving system as set forth in claim 1, wherein:

20 said receiving quality control means includes an error rate of receiving data-measuring means for measuring the error rate of receiving data, which is a ratio of error bits contained in receiving data per unit time, for each passband; and

a signal representing this error rate of receiving data is said receiving quality control signal.

7. A transmitting/receiving system as set forth in claim 1, wherein:

25 said receiving quality control means includes a number of error bits in receiving-measuring means for measuring the number of error bits in receiving, which is the number of error bits per unit time, for each passband; and

a signal representing this number of error bits in receiving is said receiving quality control signal.

8. A transmitting/receiving system as set forth in claim 1, wherein:

said first transmitting/receiving apparatus comprises a modulation means
5 for applying a modulation according to the characteristics of a transmission way;
and

said second transmitting/receiving apparatus includes a demodulation means which is conformable to said modulation means.

9. A transmitting/receiving system as set forth in claim 1, wherein:

10 said first transmitting/receiving apparatus comprises a modulation means,
a multi-carrier method is employed as a modulation method in this modulation means; and

said second transmitting/receiving apparatus includes a demodulation means which is conformable to said modulation means.

15 10. A transmitting/receiving system as set forth in claim 1, wherein:

said first transmitting/receiving apparatus comprises a spread spectrum modulation means; and

said second transmitting/receiving apparatus includes a demodulation means which is conformable to said modulation means.

20 11. A transmitting/receiving apparatus which transmits a signal to a second transmitting/receiving apparatus or receives a signal from said second transmitting/receiving apparatus comprising:

a plurality of band-pass means having different passbands for a signal which has been received from said other transmitting/receiving apparatus,

25 a plurality of receiving quality detection means which are provided in response to said band-pass means and detect receiving quality information of a

signal which has passed through the corresponding band-pass means; and

a receiving quality control means which generates, based on said receiving quality information provided by said plurality of receiving quality detection means, a receiving quality control signal for each passband;

5 a transmitting signal generating means which generates a signal including said receiving quality control signal and transmitting data, for a transmission to said other transmitting/receiving apparatus; and

said receiving quality control signal is a signal which becomes a basis for controlling the level of a signal transmitted by said other transmitting/receiving apparatus.

10 12. A transmitting/receiving apparatus as set forth in claim 11, wherein said receiving quality information is at least one of bit errors and a signal level.

13. A transmitting/receiving apparatus as set forth in claim 11, wherein said receiving quality control means uses said receiving quality information as said receiving quality control signal.

15 14. A transmitting/receiving apparatus according to claim 11, further comprising a receiving quality control signal which has been generated based on receiving quality information for each passband of said second transmitting/receiving apparatus is received and based on this receiving quality control signal, the level of a signal to be transmitted is adjusted for each passband.

20 15. A transmitting/receiving apparatus as set forth in claim 14, further comprising a modulation means for applying a modulation according to the characteristics of a transmission way.

25 16. A transmitting/receiving apparatus as set forth in claim 14, further comprising:

a modulation means; and

said modulation means including a multi-carrier modulation method.

17. A transmitting/receiving apparatus as set forth in claim 14, further comprising means for applying spread spectrum modulation to a transmitted signal.

18. A transmitting/receiving system comprising:

a first transmitting/receiving apparatus;

a second transmitting/receiving apparatus;

signals between said first and second transmitting/receiving apparatus being connectable on a transmission way;

means for modulating a first transmitted signal from said first transmitting/receiving apparatus;

at least first and second band-pass means in said second transmitting/receiving apparatus;

said at least first and second band-pass means including signal-assessment means for determining a quality of a signal received in its own bandpass;

means in said second transmitting/receiving apparatus for transmitting a measure of said quality of signal in each of said passbands through said transmission way to said first transmitting/receiving apparatus; and

means in said first transmitting/receiving apparatus for controlling transmission in said first and second passbands in response to said quality of signal in said first and second passbands.

19. A transmitting/receiving system according to claim 18, wherein said apparatus for controlling transmission includes apparatus for controlling an electrical quantity in each of said first and second passbands.